

REMARKS/ARGUMENTS

Claims 2-10 and 12-27 remain pending.

35 U.S.C. §103(a) rejections: Hunzinger and Thornton

The Examiner rejected claims 2-6, 9, 10, 12-16, 18 and 21-27 as being obvious in view of U.S. Patent No. 6,501,947 to Hunzinger et al. (Hunzinger) and of U.S. Patent Application Publication No. 2002/0183042A1 to Thornton.

Applicant respectfully submits that neither Hunzinger nor Thornton, either alone or in combination, teach or fairly suggest every aspect, either explicitly or implicitly, of the invention as claimed in independent claims 12 and 21.

In brief, as far as understood, the rejection is premised on two conclusions. First, the Examiner states that Hunzinger teaches every step of claim 12 except the step of *re-establishing the previously established data connection if the transmitted connection request is accepted by the wireless data network*; and second, that Thornton can be combined with Hunzinger in an obvious manner to achieve the claimed invention. With respect, Applicant submits that both conclusions are incorrect.

Hunzinger fails to teach or suggest determining status of previously established data connection

With respect to the Examiner's statement that Hunzinger teaches every step of claim 12 except the step of *re-establishing the previously established data connection if the transmitted connection request is accepted by the wireless data network*, it is simply false. In fact, contrary to the Examiner's statement, Hunzinger does not teach the first step of claim 12, which reads: *determining, at minimum fixed time intervals determined by a service check timer, the status of a previously established data connection*. In support of his statement, the Examiner points to column 2, lines 22-29, and to column 4, lines 17-21, of Hunzinger. In the previous response, Applicant presented an argument as to why these excerpts, and Hunzinger as a whole, fail to teach or suggest the method step in question. **Applicant once again presents this argument and earnestly asks that the Examiner consider it.**

In the reasons given at pages 2 and 3 of the Office Action, the Examiner states that Hunzinger teaches the step of *determining, at minimum fixed time intervals determined by a service check timer, the status of a previously established data connection* and quotes from column 2, lines 22-29 for support. Applicant respectfully disagrees with the Examiner's characterization of the excerpt.

What is stated at column 2, lines 22-29 is:

Another aspect of the present invention is a timer setting circuit for use in a mobile communication system. The timer setting circuit comprises a reconnection timer and a timer setting circuit. The timer setting circuit sets the reconnection timer to a value after a failed connection attempt between a mobile station and the mobile communication system. The timer setting circuit determines the value of the reconnection timer is based on a set of data regarding connection requests[emphasis added].

This excerpt teaches that the reconnection timer of Hunzinger is a timer having a time value set by a timer setting circuit after a failed connection attempt. No connection has been established. The operation of the reconnection timer is described at least at Fig. 2 and its related text at column 4, lines 8-27:

FIG. 2 illustrates the process 200 used by a mobile station 106 under the current CDMA standard after an initial attempt to connect has failed. The process 200 begins at a start state 205. Proceeding to state 210, the mobile station 106 [shown in Fig. 1] initializes a reconnect timer and waits for the time out. Under the IS-707 standard, the timer is initialized at approximately four seconds. After the timer has elapsed, the process 200 proceeds to state 215 and again attempts to connect to the base station 104.

Proceeding to state 220, the mobile station 106 determines whether service with the base station 104 has been connected or rejected, or if the mobile station 106 was unable to communicate with the base station 104. If the connection with the base station 104 is successful, the mobile station 106 proceeds along the YES branch and the connection process terminates in end state 250. Returning to state 220, if the connection with the base station 104 is unsuccessful, the mobile station 106 proceeds along the NO branch to state 225 where the mobile station 106 determines whether the timer is at the maximum allowable value.

Thus, in relation to Fig. 2 and its related text, Hunzinger describes how an initial connection attempt is made (step 215) and how re-attempts to establish an initial connection are made if the first attempt to connect is rejected (steps 225 to 245). Applicant submits that the Examiner must look at the function of the reconnection timer in Hunzinger. The fact that Hunzinger uses the term "reconnection" timer does not make it a timer that times periods between true reconnect attempts (i.e. calling an apple an orange does not make it an orange), and reference to the teachings of the patent is required to interpret the term used. Hunzinger does not teach or suggest, either in Fig. 2 or anywhere else in the description, how to determine if a previously established connection has been lost. In fact, Fig. 2 shows that when the connection attempt is successful, the connection process ends ("yes" branch going directly from step 220 to step 250), i.e., in Hunzinger, there is no monitoring of any previously established connection to determine if it has been lost.

The function of the reconnection timer of Hunzinger is thus markedly different from *determining, at minimum fixed time intervals determined by a service check timer, the status of the previously established data connection*, as recited in claim 12. Hunzinger's reconnection timer is also patentably different from the *service check timer for setting a minimum fixed interval after which a previously established data connection is checked to determine if it has been lost*, as recited in claim 21.

As stated in previous responses, Hunzinger discloses a CDMA standard process used by a mobile station to connect to a base station when an initial attempt to establish a connection has failed (col. 4, lines 1-10). This CDMA standard process (200) is illustrated in Fig. 2 and described at col. 4, line 8 to col. 5, line 21. When an initial connection attempt fails, the process 200 is initiated at step 205. Subsequent to this initiation, a reconnect timer is initialized (210) and, upon expiry of the reconnect timer, an attempt to reconnect is made at step 215. This attempt to reconnect includes a conditional loop at step 220 where, when an attempt to connect fails, a wait timer value is quadrupled up to a maximum value (steps 225 and 230) and a reconnection attempt is subsequently made (240). In Hunzinger, a determination of a data connection status is only made up to the point where the connection is established. Hunzinger states: "If the connection with the base station 104 is successful, the mobile station 106 proceeds along the YES branch and the connection process [200] terminates in end state 250" (col. 4, lines 21-23); however, Hunzinger is silent as to any determination of the data connection status after the data connection is established.

By contrast, the present invention provides an automatic disconnect recovery process that permits an always-on device to reestablish a data connection if the connection is lost. If a data connection is not established, a back off timer is initialized, and reconnection attempted (see e.g. p.10, line 6 - p.12, line 11; Fig. 3). However, if a data connection is established, the present invention checks periodically to determine if this previously established connection is still established or has been lost. A connection manager 156 checks the previously established data connection at minimum fixed intervals, as determined by a service check timer 154 (p. 7, lines 14 - 27; p. 12, lines 12 - 21; Fig. 4). If the previously established connection is determined to have been lost, the present invention attempts to reestablish the connection as described in relation to Fig. 3 (p. 9, lines 17 - 25), and may, if necessary, initialize the back off timer (p. 10, lines 6 - 12).

Thornton fails to teach or suggest determining status of previously established data connection

Thornton is silent on any type of determination of previously established data connection, and also fails to teach or suggest any type of timer used for determining the status of any type of connection. As such, Thornton simply cannot teach or suggest the step of *determining, at minimum fixed time intervals determined by a service check timer, the status of a previously established data connection*, as recited in claim 12.

Hunzinger and Thornton cannot achieve claimed invention

Applicant submits that the Examiner's assertion that Thornton can be combined with Hunzinger in an obvious manner to achieve the claimed invention is also incorrect. Applicant submits that a person skilled in the art would not think to combine Hunzinger and Thornton as suggested by the Examiner, as neither addresses, or even mentions or suggests, the problem solved by the claimed invention, the problem being that of losing a connection between a mobile device and a wireless network. Further, the improvement represented by the claimed invention is "more than the predictable use of prior art elements according to their established functions."

As stated above, Hunzinger discloses a CDMA standard process used by a mobile station to connect to a base station when an initial attempt to establish a connection has failed (col. 4, lines 1-10). As for Thornton, it discloses a system and method used by a mobile device to switch between a data connection and a voice connection to allow sampling of audio recordings when using the mobile device to shop for audio product. Neither Hunzinger nor Thornton address the problem solved by the present invention as claimed, once again, the problem being that of losing a connection between a mobile device and a wireless network.

Further, Thornton is silent on any type of determination of previously established data connection. Thornton also fails to teach or suggest any type of timer used for determining the status of any type of connection.

Accordingly, and for at least the reasons provided above, Applicant respectfully submits that the rejection fails to establish a *prima facie* case of obviousness, and requests that the rejection of claims 2-6, 9, 10, 12-16, 18 and 21-27 under 35 U.S.C. §103(a) be withdrawn for the same reasons.

35 U.S.C. §103(a) rejections: Hunzinger, Thornton and others

The Examiner rejected claims 7 and 8 as being obvious in view of Hunzinger, Thornton and of U.S. Patent No. 4, 827,507 to Marry; claim 17 as being obvious in view of Hunzinger and Thornton; claim 19 as being obvious in view of Hunzinger, Thornton and an Official Notice; and claim 20 as being obvious in view of Hunzinger, Thornton and of U.S. Publication No. 2002/0082032A1 to Hunzinger (Hunzinger II).

Each of claims 7, 8, 17 and 20 is dependent, directly or indirectly, from claim 12, and includes all the limitations of claim 12. Applicant reiterates the comments made above in respect of Hunzinger and Thornton, and submits that, since neither Hunzinger nor Thornton do not teach all the claimed limitations of independent claim 12, they cannot teach or reasonably suggest all the limitations of a narrower claim dependent from claim 12. Applicant further submits that none of Marry, the Official Notice or Hunzinger II teach or suggest a service check timer that determines the minimum fixed time intervals at which an established data connection is checked, as claimed herein.

Therefore, Applicant submits that there is no combination of the cited references that can teach or suggest all the claimed limitations in claims 7, 8, 17 or 20, and no showing of *prima facie* obviousness can be made. Withdrawal of the rejections under U.S.C. §103(a) is respectfully requested.

It is submitted that this application is now in condition for allowance, and action to that end is respectfully requested.

No fee is believed due for this submission. However, Applicant authorizes the Commissioner to debit any required fee from Deposit Account No. 501593, in the name of Borden Ladner Gervais LLP. The Commissioner is further authorized to debit any additional amount required, and to credit any overpayment to the above-noted deposit account.

Respectfully submitted,

ZHAO, Wen et al

By: /Leslie A. Kinsman/

Leslie A. Kinsman

Reg. No. 45,291

Borden Ladner Gervais LLP

World Exchange Plaza

100 Queen Street, Suite 1100

Ottawa, ON K1P 1J9

CANADA

Tel: (613) 237-5160

Fax: (613) 787-3558

E-mail: ipinfo@blgcanada.com

ALK/cf